REMARKS

At the time the Office Action was mailed, claims 1-46 were pending in the present application. In the Office Action, the Examiner allowed claims 1-39, objected to claims 44 and 45, and rejected claims 40-43 and 46. Applicants have amended independent claim 40 to include the subject matter originally recited in dependent claim 42 and cancelled claim 42. Applicants would like to thank the Examiner for allowing claims 1-39 and respectfully request reconsideration of claims 40-41 and 43-46 in view of the remarks set forth below.

Allowable Subject Matter

Applicants would like to thank the Examiner for allowing claims 1-39.

Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 40-43 and 46 under 35 U.S.C. § 103(a) as being unpatentable over Chin et al. (U.S. 6,356,972) in view of Quan et al. (Publication No. 2002/0133658). Applicants respectfully traverse this rejection.

First, the burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d. 1430 (Fed. Cir. 1990). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination

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includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

Turning now to the claims, independent claim 40 has been amended to recite subject matter previously recited in dependent claim 42. As amended, claim 40 recites, among other things, a queue structure comprising "a queue entry pool comprising a plurality of fixed registers configured to store requests, wherein each of the plurality of fixed registers is configured to store a plurality of flags corresponding to the status of each request."

Detailed Rejection

In the Office Action with regards to claims 40 and 42, the Examiner specifically stated:

> As to claim 40, Chin et al teach a queue entry pool comprising a plurality of fixed registers configured to store requests (figure 4, queues 66 or 68), and an entry shifter coupled to the queue entry pool (figure 4, In-order queue 64) and comprising a plurality of registers, each of the registers is configured to store a request corresponding to a request stored in one of the plurality of fixed registers (col. 5 lines 35-65 and col. 11 line 9 – col. 12 line 67).
> However, Chin et al do not expressly teach the entry shift register being shift registers. Quan et al teach a request queue having a plurality of shift registers to store requests (page 2, section 0036). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Chin et al and Quan et al because Quan et al's usage of well known shift registers would have enabled entry shifting in a more efficient manner utilizing the advantages and benefits already well known in the prior existing systems....
> As to claim 42, Chin et al teach each of the plurality of fixed registers is configured to store a plurality of flags corresponding to the status of each request (col. 11 lines 9-62).
> Page 3, lines 1-21.

Deficiencies of Rejection

Because neither the Chin reference nor the Quan reference discloses "a queue entry pool comprising a plurality of fixed registers configured to store requests, wherein each of the plurality of fixed registers is configured to store a plurality of flags corresponding to the status of each request," Applicants respectfully traverse the Examiner's rejections of claims 40-41 and 43-46.
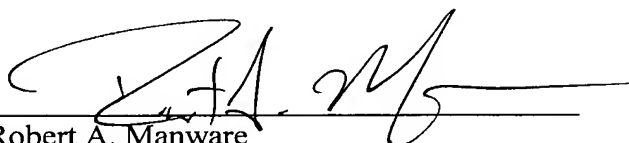
In the Office Action, the Examiner stated that "Chin et al teach each of the plurality of fixed registers is configured to store a plurality of flags corresponding to the status of each request (col. 11 lines 9-62)." Page 3, lines 19-21. However, Applicants respectfully assert that the Chin reference does not disclose "a queue entry pool comprising a plurality of fixed registers configured to store requests, wherein each of the plurality of fixed registers is configured *to store a plurality of flags* corresponding to the status of each request," as recited in claim 40, as amended (emphasis added). Specifically, the peripheral request queue 66 and the memory request queue 68 disclosed in the Chin reference, which were cited by the Examiner as disclosing features of claim 40, are merely for storing addresses. *See* Chin, col. 11, lines 19-24. The Chin reference does not mention using these queues for storing a plurality of flags, much less "a plurality of flags *corresponding to the status of each request*," as recited in claim 40 (emphasis added). *See id.* In fact, the word "flag" is not even used in the Chin reference. For this reason and because the Quan reference does not cure this deficiency in the Chin reference, Applicants respectfully request withdrawal of the rejection and allowance of claim 40 and the claims that depend therefrom.

Conclusion

Applicants thank the Examiner for allowance of claims 1-39 and, in view of the remarks set forth above, respectfully request reconsideration and allowance of claims 40-41 and 43-46. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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